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ABSTRACT

The development of the Invitational Teaching Survey (ITS) which measures personally and professionally inviting teacher practices within the framework of invitational education was discussed. The development included initial item identification, validity evidence based on judgments, item selection based on judgments, validity evidence from a factor analysis study, final item selection and revisions, reliability, correlation of subscores, and normative data. Research studies using the ITS are being conducted in three areas of higher education. The studies relate professionally and personally inviting teacher practices to student affective outcome measures. (DWH)

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Development of Invitational Teaching Survey

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Abstract

This paper presents the development of the Invitational Teaching Survey (ITS) which measures personally and professionally inviting teacher practices within the framework of invitational education. The methods used were initial item identification, validity evidence based on judgments and factor analysis study. Reliability was 0.92 and factor analysis resulted in five factors: Commitment, Consideration, Coordination, Proficiency, and Expectation.

Invitational Teaching Model

Invitational education was first presented by Purkey (1975, 1976a, 1976b, 1976c, 1978) and later extended by Purkey and Novak (1984), Schmidt (1982), Russell, Purkey, and Siegel (1982), and others. Human interactions that promote positive relationships and develop human potential are the underlying theme. Invitational theory supports the belief that "... each individual has relatively untapped potential for intellectual, psychological, and physical development, and that this potential is best realized in a human and humane environment that intentionally invites the process" (Purkey & Schmidt, 1984, p. 6).

Purkey and Novak (1984) define invitational education as "a perceptually based, self-concept approach to the educative process and professional functioning that centers on four basic principles: (1) people are able, valuable, and responsible and should be treated accordingly; (2) teaching should be cooperative activity; (3) people possess relatively untapped potential in all areas of human development; and (4) this potential can best be realized by places, policies, and programs that are specifically designed to invite development, and by people who are personally and professionally inviting to themselves and others" (p. 2).

The belief that teachers invite or disinvite students to learn is at the heart of invitational education (Purkey, 1978; Purkey & Novak, 1984). The "artfully inviting teacher is one who is optimally successful in guiding and facilitating student development--social, emotional, physical, and intellectual" (Russell, Purkey, & Siegel, 1982, p. 35).

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Statement of the Problem

This study developed an instrument to measure personally and professionally inviting teacher practices within the framework of invitational education. Only one instrument developed by Inglis (1976) was found that measured teacher performance in terms of invitational education. Three studies (Inglis, 1976; Lambeth, 1980; Turner, 1983) have investigated the concept of inviting teaching using Inglis' IN-Scale. In this study, a major question is why the investigator developed the Invitational Teaching Survey (ITS) when Inglis had already developed an instrument related to invitational education. Inglis' In-Scale was reviewed prior to the plan to develop the ITS. Two major problems existed: (1) content and wording of items and (2) the dimensions of items, which were divided into inviting and effective behaviors. Several problems exist with the items on the IN-Scale. Wording of the items is not consistent: some describe what the teacher does; some describe how the student feels; one makes a general statement about the class; and one confounds the meaning by using the word inviting. Also, the investigators were testing the theory that teacher practices are divided into two dimensions-- personally and professionally inviting practices. Professionally inviting teacher practices include actions that summon students cordially to learn and appreciate course content. Personally inviting teacher practices summon students cordially to feel good about themselves and their abilities in general. The basic content of many of her items were included in the initial pool of items that were judged.

Other problems existed with the size of samples in the Inglis (1976) study. The factor analysis was conducted on data from 159 students. According to Anderson, Grablovsky, Hair and Tatham (1979), "as a general rule there should be four or five times as many observations as there are variables to be analyzed (p. 219). The normative data of the 50-item IN-Scale was determined on a sample of 55 students. Therefore, the investigators felt that the development of the ITS was justified.

Methods

The methods used in development of the ITS included initial item identification, validity evidence based on judgments, validity evidence from a factor analysis study, final item revisions, reliability, correlation of subscores, and brief normative data.

Description of ITS

The ITS is a 43-item Likert-type scale designed to measure professionally and personally inviting teacher practices within the framework of invitational education (Purkey, 1978; Purkey & Novak, 1984). Respondents select one of five categories of response for each item--"very seldom or never," "seldom," "occa-

sionally," "often," and "very often or always. The instructor works to encourage student's self-confidence is an example of a personally inviting item. The instructor presents a smooth transition from one topic to another is an example of a professionally inviting item.

Validity Evidence

The methods used in the development of the ITS were: (a) initial item identification, (b) validity evidence based on judgments, and (c) validity evidence from a factor analysis study. Two types of validity evidence were developed: the first was a judgment made by various raters: experts in invitational education, college faculty, and college students; the second type was a factor analysis. Reliability studies were completed on data collected for the factor analysis.

Initial item identification

All items on the ITS were derived from a synthesis of the literature and theory of the investigators. From a sample of approximately 400 items placed on 5 by 8 cards and screened for duplication, 140 items were chosen and revised to meet the following guidelines: (1) all items were written in behavioral terms; (2) all items were grammatically consistent; and (3) all items were stated positively. The 140 items were juxtapositioned into a questionnaire with three response choices: (1) professionally inviting, (2) personally inviting, and (3) can't say.

Validity Evidence based on Judgments

The 140-item questionnaire was administered to a non-random sample of judges which consisted of the following groups: (a) 15 (7%) "expert" judges who had published studies in invitational education; (b) 16 (7%) Guilford Technical Community College (GTCC) faculty from nursing (4), dental (9), and engineering departments (3); (c) 31 (14%) students at the University of North Carolina at Greensboro (UNC-G); and (d) 157 (72%) students at GTCC enrolled in nursing (41), dental hygiene (36), and engineering (80). The total sample was 219. The following demographic data were collected: sex, age, year in school, and major. Since each subject did not always complete the demographic data, the results represent an approximate description. There were approximately 88 (44%) males and 114 (56%) females. The ages were as follows: two (1%) below 17, 135 (68%) between 18 and 28, 41 (21%) between 29 and 35, 16 (8%) between 40-50, and four (2%) over 50. Forty-six (24.5%) were freshmen, 82 (44%) sophomores, seven (4%) juniors, 19 (10%) seniors, and 33 (17.6%) graduate students. The number of subjects in different majors were as follows: 36 (19%) dental hygiene, 41 (22%) nursing, nine (5%) counseling, one (less than 1%) in business, 80 (43%) engineering, and 21 (11%) other.

Final item selection

Based on the judgments, 65 items were retained--34 professionally inviting practices and 31 personally inviting practices. The authors sorted the 65 items into one of three categories: relating, investing, and asserting. These categories have been described by Purkey and Novak (1984) in Inviting School Success as important dimensions in the invitational approach to teaching. Relating is a level of trust and appreciation that the teacher maintains towards students. Asserting is teacher behavior that exerts control over what happens in the classroom. Investing behavior shows a teacher's willingness to do new things and his/her commitment to students. Thirty-four professionally inviting teacher practices were chosen with nine relating, 15 asserting, and 10 investing. Thirty-one personally inviting teacher practices were chosen: 12 relating, 14 asserting, and five investing.

The item revisions involved alterations in the positive manner in which each item was stated. Fifty percent of the personally inviting items and 50 percent of the professionally inviting items were randomly selected and changed from a positive to a negative wording to reduce student response set bias in rating an instructor. Then the 65 items were randomly positioned on the instrument. To assure the clarity of the design and instructions and to test the length of time to complete the ITS, it was pilot tested on five volunteer subjects. The ambiguities in wording were corrected.

Validity Evidence from a Factor Analysis Study

A factor analysis was conducted to provide further evidence of the constructs measured by the ITS, to analyze the interrelationships between the items and to explain the items in terms of underlying dimensions.

Field test of the 65-item ITS. The 65-item instrument was completed by 1491 students on 75 teachers. The sample consisted of 12% high school, 33% community college students, 9% technical institute students, and 46% undergraduate, and graduate students. Because all students did not complete the questions on demographic data, the description is an approximation. There were 508 (35%) males and 930 (65%) females. The ages were as follows: 102 (7%) students below 17, 960 (67%) students between 18-28, 270 (19%) between 29-39, 81 (5%) between 40-50, and 28 (2%) over 50. There were 417 (36%) students who were either freshmen or sophomores in college and 150 (13%) who were juniors, 136 (12%) who were seniors, and 266 (23%) who were graduate students. There were 180 (12%) high school students. The racial composition was as follows: 289 (26%) black, 794 (71%) white, 10 (less than 1%) Hispanic, 9 (less than 1%) Oriental, and 20 (2%) other.

The ratings were analyzed using SAS (Ray, 1982a; 1982b) programming of the principal component factor analytic program and Varimax rotation procedures, other statistical procedures for calculating normative data, and the Pearson correlation coefficient for the split-half reliability.

Results. Factor analysis resulted in five factors: (1) Commitment, (2) Consideration, (3) Coordination, (4) Proficiency, and (5) Expectation. The varimax rotation with a four-factor solution, which accounted for 67% of the common variance, was the most meaningful interpretation. Twenty-three of the items had factor loadings of 0.50 or above; 15 items had loadings between 0.40 and 0.49; three items had loadings of 0.32 to 0.39, see Tables 1 and 2. Item 50 was reworded and placed in Factor IV by a judgment of the authors even though it loaded in Factor II. Item 24, which was retained as a single item for Factor V, had a loading of 0.71 when the number of factors was not designated, 0.62 when eight factors were designated, and 0.64 when six factors were designated. Forty-three items were retained.

The authors subdivided each of the four Subscores into clusters. They felt that the clusters would help teachers identify specific practices that they may need to improve.

Split-half reliability

The Pearson correlation coefficient for the split-half reliability procedure for the 65 items retained for the factor analysis was 0.92. The reliability of the 43 items retained for the final ITS was 0.881. For the subscores, the reliability was as follows: Subscore I (Commitment) was 0.778 ; Subscore II (Consideration) was 0.763; Subscore III (Coordination) was 0.727; Subscore IV (Proficiency) was 0.635 (Subscore V (Expectation) was a single item). The investigators concluded that the ITS Subscores have satisfactory reliability for their intended purpose--providing feedback to teachers for improving their personally and professionally inviting practices.

Correlation of Subscores

Pearson product-moment correlation coefficients indicated that Subscores I, II, III, IV and the Totals were moderately to highly correlated. The values of the correlation coefficients for this data ranged from 0.496 to 0.894. Subscore V, Expectation, had low correlations with each of the other Subscores and the Total with a range of 0.077 to 0.205.

Summary

The development of the ITS included (1) initial item identification, (2) validity evidence based on judgments, (3) item selection based on judgments, (4) validity evidence from a factor analysis study, (5) final item selection and revisions, (6) reliability, (7) correlation of five subscores, (8) normative data. The ITS has proven to be highly reliable and valid. The only procedure that was not included was having students, faculty, and administrators provide feedback about the relative importance of the professionally and personally inviting teacher practices.

Current Research

There are three on going research studies using the ITS. The first is a study of dental hygiene students' evaluation of instructors in schools in five southern states. The second is a study of associate degree nursing students' evaluation of clinical practicum instructors in North Carolina community colleges. The third is a study of master's degree nursing students' evaluation of classroom instructors in schools in several southern states. All studies related professionally and personally inviting teacher practices to student affective outcome measures.

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References

- Andersen, R.E., Grablowsky, B.J., Hair, J.F., Tatham, R.R. (1979). Multivariate data analysis with readings. Tulsa, Oklahoma: Petroleum Publishing Co.
- Purkey, W.W. (1978). Inviting school success: A self-concept approach to teaching and learning. Belmont, CA: Wadsworth Publishing Co.
- Purkey, W.W. & Novak, J.M. (1984). Inviting school success: a self-concept approach to teaching and learning (3rd ed.). Belmont, CA: Wadsworth Publishing Co.
- Purkey, W.W. (1975). The invitational secondary school. Thresholds in Secondary Education, 3, 16-19.
- Purkey, W.W. (1976a). Invitations from Mr. Jefferson. Proceedings, University of Virginia Education Day.
- Purkey, W.W. (1976b). Powerful invitations in education. Iowa Association for School, College, and University Newsletter, University of Iowa.
- Purkey, W.W. (1976c). The bell invites me. Proceedings, Mathematics '76. York University, Ontario.
- Purkey, W.W., & Schmidt, J.J. (1984). Counseling-An Invitational Approach. Manuscript in progress.
- Ray, A.A. (Ed.). (1982). SAS user's guide: basics. Cary, N.C.: SAS Institute Inc.
- Ray, A.A. (Ed.). (1982). SAS user's guide: statistics. Cary, N.C.: SAS Institute, Inc.
- Russell, D., Purkey, W., & Siegel, B. (1982). The artfully inviting teacher: A hierarchy of strategies. Education, 103, 35-38.
- Schmidt, J.J. (1982). Coordination and supervision of counseling services: an invitational approach. Counselor Education and supervision, 22, 98-106.
- Turner, R.B. (1983). Teacher invitations and effectiveness as reported by physical education students. Unpublished doctoral dissertation, University of North Carolina at Greensboro.

TABLE 1
 ROTATED FACTOR MATRIX: PERSONALLY INVITING PRACTICES
 N = 1491

	Item Number	Factor I Commitment	Factor II Consideration
Factor I			
	2.	0.59	
	5.	0.50	
	10.	0.57	
	14.	0.45	
	16.	0.48	
	17.	0.67	
	22.	0.55	
	32.	0.56	
	41.	0.50	
	42.	0.48	
	47.	0.54	
 Factor II			
	7.		0.48
	9.		0.44
	12.		0.50
	13.		0.54
	27.		0.41
	44.		0.48
	46.		0.65
	49.		0.59
	51.		0.48
	57.		0.65
	58.		0.44

TABLE 2
 ROTATED FACTOR MATRIX: PROFESSIONALLY INVITING PRACTICES
 N = 1491

Item Number	Factor III Coordination	Factor IV Proficiency
Factor III		
1.	0.34	
23.	0.09*	
38.	0.38	
40.	0.46	
45.	0.51	
48.	0.54	
53.	0.62	
60.	0.65	
62.	0.53	
63.	0.52	
Factor IV		
3.		0.63
4.		0.46
6.		0.53
18.		0.55
19.		0.60
29.		0.47
31.		0.46
34.		0.48
43.		0.48
50.		0.12**

* loaded .32 on Factor II but moved to Factor III

** loaded .42 on Factor II but moved to Factor IV

ITEMS 1-20
STUDENT AFFECTIVE OUTCOME MEASURES (SAOM)
AS LISTED IN SUBSCORES

COURSE

- 2. This course had value for me as a person.
- 6. Overall, this course was among the worst I have taken.
- 12. I would recommend this course to my friends.

SUBJECT MATTER

- 7. I would like to take more courses in this subject area.
- 9. The subject matter was sometimes boring.
- 16. I enjoyed learning about this subject matter.

INSTRUCTOR

- 8. I would not like to have this instructor as a friend.
- 10. I do not like this instructor as a person.
- 11. This instructor is among the best teachers I have known.
- 13. I related poorly to this instructor.
- 17. I would like to work with this instructor on a project of mine not related to course activities.
- 19. I would not recommend this instructor to friends.
- 20. I would like to take more courses from this instructor.

SELF AS LEARNER

- 1. I was uncomfortable in asking questions in this course.
- 3. I was afraid to speak up for my own ideas in this course.
- 4. I feel that my performance in this course was poor.
- 5. I seemed to get along well with other students in this course.
- 7. This course helped me to fulfill some personal goals.
- 15. I am confident about what I learned in this course.
- 18. I dreaded attending this class.

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